

THE PENDING CLAIMS:

1. (Previously Presented) A method for depositing a low dielectric constant film, comprising:

introducing a siloxane comprising two or more silicons and from two to five carbons bonded to the silicons into a processing chamber;

introducing at least one oxidizable chemical comprising a member selected from the group consisting of furfuryl, furfuryloxy, and neopentyl into the processing chamber;

reacting the siloxane and the at least one oxidizable chemical with an oxidizing gas at a temperature that retains the member in a conformal layer; and

converting the member to dispersed voids.

2-4. (Canceled)

5. (Previously Presented) A method for depositing a low dielectric constant film, comprising:

introducing at least one oxidizable chemical comprising a member selected from the group consisting of furfuryl, furfuryloxy, and neopentyl into a processing chamber, wherein the at least one oxidizable chemical comprises silicon;

reacting the at least one oxidizable chemical with an oxidizing gas at a temperature that retains the member in a conformal layer; and

converting the member to dispersed voids.

6. (Original) The method of claim 5, wherein the at least one oxidizable chemical is a silane.

7. (Original) The method of claim 6, wherein the silane is dimethylfurfuryloxy silane.

8. (Original) The method of claim 5, wherein the at least one oxidizable chemical is a disiloxane.

9-15. (Canceled)

16. (Previously Presented) The method of claim 1, wherein the siloxane is selected from the group consisting of 1,1,3,3-tetramethyldisiloxane, 1,3,5,7-tetramethylcyclotetrasiloxane, and octamethylcyclotetrasiloxane, and the at least one oxidizable chemical is dimethylfurfuryloxy silane.

17. (Canceled)

18. (Previously Presented) The method of claim 1, further comprising depositing a silicon carbide layer on the conformal layer prior to the converting the member to dispersed voids.

19-20. (Canceled)

21. (Previously Presented) The method of claim 1, wherein the at least one oxidizable chemical is difurfuryl ether.

22. (Previously Presented) A method for depositing a low dielectric constant film, comprising:

introducing a siloxane comprising two or more silicons and four or more methyl groups bonded to the silicons into a processing chamber;

introducing at least one oxidizable chemical comprising a cyclic ring consisting of carbon and oxygen into the processing chamber;

reacting the siloxane and the at least one oxidizable chemical with an oxidizing gas at a temperature that retains the cyclic ring in a conformal layer; and

converting the cyclic ring to dispersed voids.

23. (Previously Presented) The method of claim 22, wherein the oxidizable chemical is selected from the group consisting of vinyl-1,4-dioxinyl ether, vinyl furyl ether, vinyl-1,4-dioxin, vinyl furan, methyl furoate, furyl formate, furyl acetate, furaldehyde, difuryl ketone, difuryl ether, difurfuryl ether, furan, and 1,4-dioxin.
24. (Previously Presented) The method of claim 22, wherein the oxidizable chemical is difurfuryl ether.
25. (Previously Presented) The method of claim 24, wherein the siloxane is selected from the group consisting of 1,1,3,3-tetramethyldisiloxane, 1,1,5,5-tetramethyltrisiloxane, 1,1,3,5,5-pentamethyltrisiloxane, 2,4,6-trisilaoxane, and cyclo-1,3,5,7-tetrasilano-2,6-dioxy-4,8-dimethylene.
26. (Previously Presented) The method of claim 1, wherein the dispersed voids are formed by annealing the substrate.
27. (Previously Presented) The method of claim 1, wherein the siloxane comprises four or more methyl groups bonded to the silicons.
28. (Previously Presented) The method of claim 1, wherein the siloxane is selected from the group consisting of 1,1,3,3-tetramethyldisiloxane, 1,1,5,5-tetramethyltrisiloxane, 1,1,3,5,5-pentamethyltrisiloxane, 2,4,6-trisilaoxane, cyclo-1,3,5,7-tetrasilano-2,6-dioxy-4,8-dimethylene, 1,3,5,7-tetramethylcyclotetrasiloxane, and octamethylcyclotetrasiloxane.
29. (Previously Presented) The method of claim 5, wherein the dispersed voids are formed by annealing the substrate.
30. (Previously Presented) The method of claim 5, further comprising introducing a siloxane comprising two or more silicons and from two to five carbons bonded to the silicons into the processing chamber and reacting the siloxane with the oxidizing gas.

31. (Previously Presented) The method of claim 30, wherein the siloxane comprises four or more methyl groups bonded to the silicons.

32. (Previously Presented) The method of claim 30, wherein the siloxane is selected from the group consisting of 1,1,3,3-tetramethyldisiloxane, 1,1,5,5-tetramethyltrisiloxane, 1,1,3,5,5-pentamethyltrisiloxane, 2,4,6-trisilaoxane, cyclo-1,3,5,7-tetrasilano-2,6-dioxy-4,8-dimethylene, 1,3,5,7-tetramethylcyclotetrasiloxane, and octamethylcyclotetrasiloxane.

33. (Previously Presented) The method of claim 22 wherein the dispersed voids are formed by annealing the substrate.

34. (Previously Presented) The method of claim 22, wherein the siloxane comprises four or more methyl groups bonded to the silicons.

35. (Previously Presented) The method of claim 1, wherein the oxidizing gas is carbon dioxide.

36. (Previously Presented) The method of claim 35, wherein the at least one oxidizable chemical comprises a neopentyl group.

37. (Previously Presented) The method of claim 5, wherein the oxidizing gas is carbon dioxide.

38. (Previously Presented) The method of claim 37, wherein the at least one oxidizable chemical comprises a neopentyl group.